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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,568	03/30/2004	Rahul Gupta	2004P00344US01	3687

7590 05/17/2005

Siemens Corporation  
Attn: Elsa Keller, Legal Administrator  
Intellectual Property Department  
170 Wood Avenue South  
Iselin, NJ 08830

EXAMINER
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GARRETT, DAWN L

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/812,568

Applicant(s)

GUPTA ET AL.

Examiner

Dawn Garrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3-30-04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 2, 4, 8, and 11 are objected to because of the following informalities:
  - a. It is suggested that “organic electronic layers” in claims 2 and 4 be changed to “organic layers” for consistency with claim 1 terminology.
  - b. In claim 8, it is suggested “by” be deleted for clarity.
  - c. It is suggested “active” be deleted from claim 11 for consistency in terminology with the prior claims.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 13 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 13 recites a “modified PEDOT:PSS solution”. It is unclear how a solution has been modified and accordingly, the claim is considered to be indefinite.
5. Claim 16 recites a layer having a “hetero-structure”. The meaning of “hetero-structure” is unclear. For the purpose of examination, the examiner has interpreted the claim limitation to be a composite material. Clarification and/or correction are required.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-13, 15-18, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Ottermann et al. (US 2004/0101618 A1). Ottermann et al. discloses light emitting devices comprising a step of crosslinking at least one of the layers of the device (see par. 30). A hole conductivity layer (hole transporting layer) may be formed of PEDOT-PSS per claims 2-4 and 13 (see par. 45). The polymerization reactions may be initiated either by UV radiation, heat, or chemical action per claims 5, 7, and 8 (see par. 44). Ottermann et al. discloses two layers may be crosslinked at their interface with regard to claim 6 (see par. 30 and par. 40). Ottermann et al. further discloses either an anode or cathode contact layer applied to the substrate prior to the application of the organic layers with regard to claim 10 (see par. 51). Ottermann et al. discloses at least one of the organic layers is an emissive layer (see par. 42) with regard to claim 11. Ottermann et al. further discloses an electrode layer such as the cathode layer disposed over the organic layers with regard to claim 12 (see par. 51). With regard to claim 16 and the requirement of a "hetero-structure", Ottermann et al. teaches dye may be embedded in at least one of the organic layers (see par. 48). With regard to claim 17, electron blocking is an inherent property of a hole transport layer and Ottermann et al. clearly discloses a hole conducting layer

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(hole transporting layer) (see par. 45). Furthermore, with regard to claims 18 and 21, the hole transporting layer made from PEDOT:PSS is deemed to have the property of wave-guiding, because PEDOT:PSS is the same material as taught by applicant for the hole transporting layer (see par. 45).

8. Claims 1-4, 8, 14, 17, 18 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Sirringhauss et al. (US 2004/0266207 A1). Sirringhauss et al. discloses organic electronic devices comprising layers which may undergo crosslinking reactions (see par. 35, 38, and 39). The devices are transistor devices (see par. 6) with regard to claim 14. Par. 38 discloses the crosslinking is done by heat with regard to claim 8. The PEDOT:PSS disclosed in par. 35 is a hole transporting material with regard to claims 3, 4, 17, and 18. With regard to claims 18 and 21, the hole transporting layer made from PEDOT:PSS is deemed to have the property of wave-guiding, because PEDOT:PSS is the same material as taught by applicant for the hole transporting layer (see par. 35).

9. Claims 1, 5-12, and 15 are rejected under 35 U.S.C. 102(a) as being anticipated by Muller et al. (Nature, Vol. 421, 20 February 2003, pages 829-833). Muller et al. discloses organic electroluminescent devices (OLEDs) comprising crosslinked organic layers (see p. 830, col. 2, first full paragraph). The crosslinking is accomplished with UV radiation, heat, and initiator (see page 832, methods "film preparation"). The organic layers are deposited on an anode ITO layer and a cathode is formed of calcium on top of the layers (see page 832, col. 1, "Device preparation and physical characterization").

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-7, 9, 13, 15, and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (US 2003/0170492 A1). Anderson et al. teaches electronic touch screens comprising a binder layer, which may be crosslinked by the addition of a crosslinking agent or by radiation curing (see par. 33 and 34). The device may include a hole transporting layer comprised of PEDOT/PSS (see par. 102) with regard to claims 2-4, 13, 17 and 21. With regard to claims 18 and 21, the hole transporting layer made from PEDOT:PSS is deemed to have the property of wave-guiding, because PEDOT:PSS is the same material as taught by applicant for the hole transporting layer. With regard to claims 19, 20 and 22, Anderson et al. teaches chelated oxinoids for electron injection and transportation (see par. 142). With regard to claim 17, electron blocking is an inherent property of a hole transport layer and Anderson et al. clearly discloses a hole transporting layer (see par. 102). With regard to claim 19, hole blocking is an inherent property of an electron transport layer and Anderson et al. clearly discloses an electron transport layer (see par 141-142). Anderson et al. fails to exemplify a device with a crosslinked conductive layer; however, it would have been obvious to one of ordinary skill in the art at the time of the invention to have formed a device with a crosslinked conductive layer, because Anderson et al. clearly teaches a crosslinked conductive layer for use with organic electroluminescent devices.

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***Conclusion***


12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 2003/0134147 teaches in par. 25 that hole blocking is the same as electron transporting.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571)272-1523. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Dawn Garrett  
Primary Examiner  
Art Unit 1774

D.G.  
May 12, 2005